23593

Region 4

SEPTEMBER 1985

FEASIBILITY STUDY SUMMARY

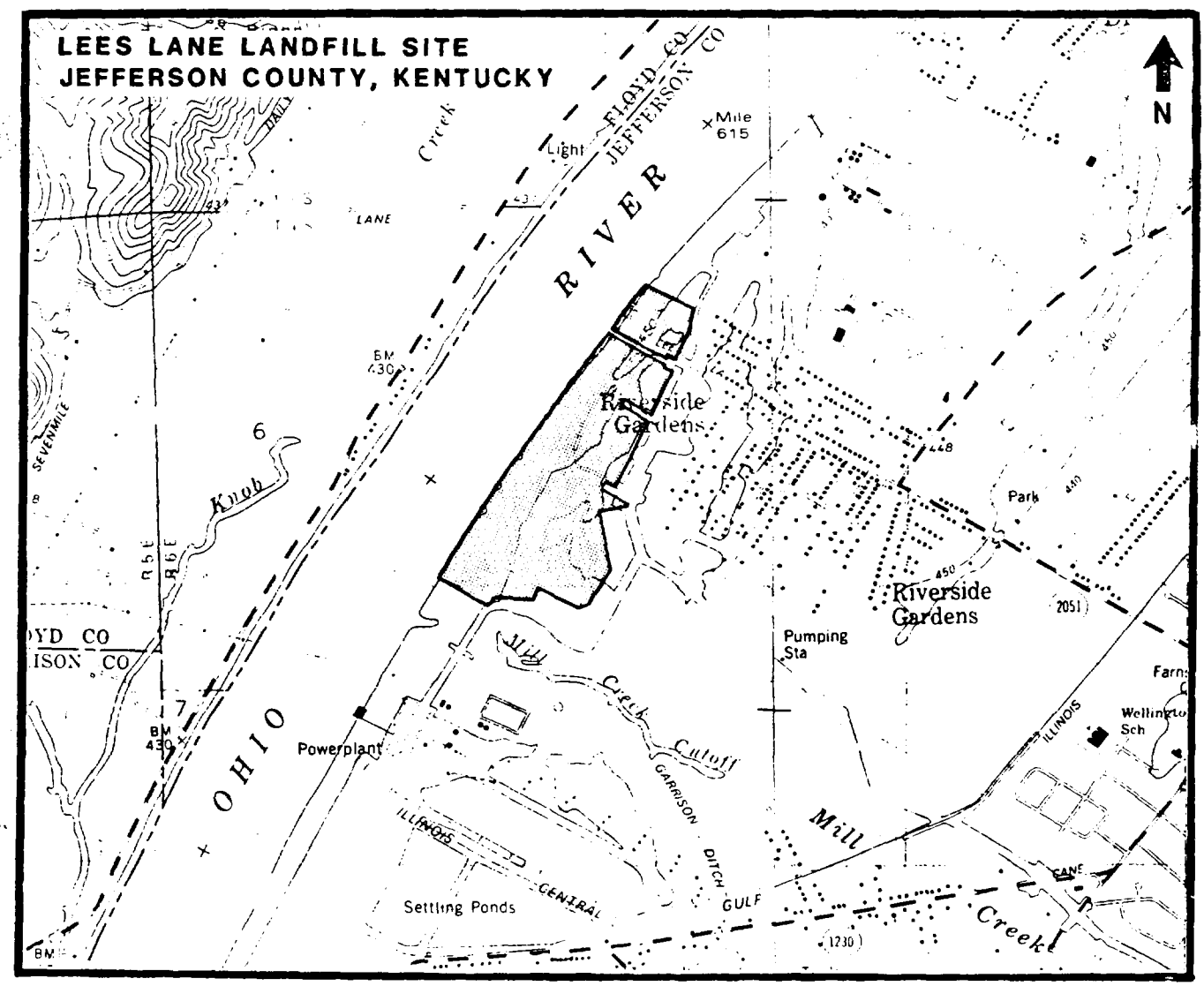
Lees Lane Landfill
Jefferson County, Kentucky

INTRODUCTION

The U.S. Environmental Protection Agency (EPA) has recently completed a Feasibility Study evaluating remedial alternatives for the Lees Lane Landfill in Jefferson County, Kentucky. This fact sheet summarizes the findings of the draft Feasibility Study report and provides a forum for discussion.

What is a Feasibility Study?

A Feasibility Study evaluates various remedies for hazardous waste contamination. It assesses how easily actions can be implemented, how well the remedies will clean up the environment and protect public health, and how much the remedies will cost. EPA's objective is to choose the most environmentally



sound and cost effective cleanup method.

Typically at Superfund sites like this one, EPA conducts a Remedial Investigation and a Feasibility Study. The Remedial Investigation defines the type and extent of contamination; the Feasibility Study then evaluates cleanup options. Cleanup activities are aimed at (1) controlling the source of contamination and (2) minimizing the impact of contaminants that may have migrated offsite.

What happens after the Feasibility Study?

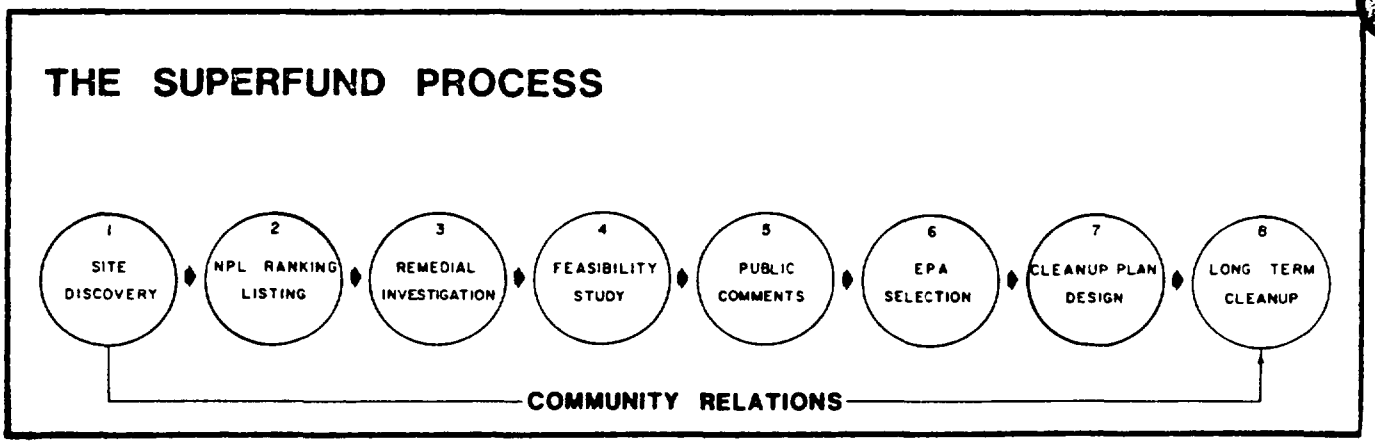
A public meeting will be held on October 15th at 7:00 p.m. at the Riverside Baptist Church on Lees Lane. The purpose of the meeting is to present a summary of the Remedial Investigation/Feasibility Study process and to explain the proposed remedies for the cleanup of the landfill. This meeting will include an opportunity for citizens to ask questions. The question and answer period will be recorded to assist EPA in the preparation of a Responsiveness Summary (a report that details citizen comments and EPA responses).

The public meeting will mark the start of a 3-week public comment period, beginning October 15, 1985 and ending November 6, 1985.

During this 3-week period, the public is encouraged to review the remedies proposed in the draft Feasibility Study, available at information repositories listed on the back page of this fact sheet, and to submit written comments to EPA.

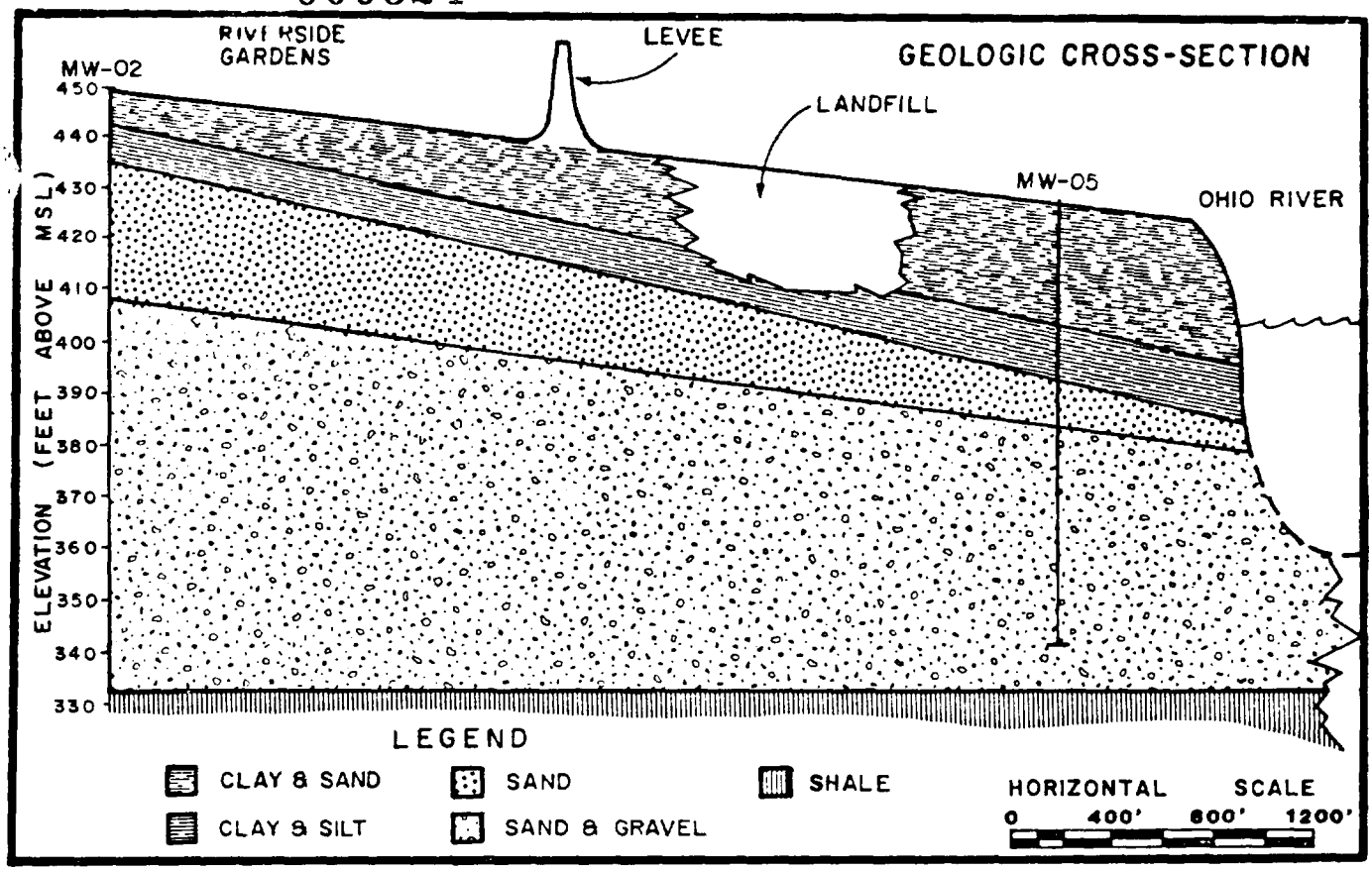
Following the public comment period EPA will carefully consider all public comments before selecting a cleanup remedy. All comments submitted in writing by November 6, 1985 will be addressed in the Responsiveness Summary, as will the questions and answers discussed at the public meeting. EPA will then distribute a fact sheet explaining the selected alternative to individuals who are on the mailing list. If you are not on the mailing list and would like to be, please fill out the form on the back page of this fact sheet.

A Record of Decision that summarizes the decision process and the selected remedy, along with the Responsiveness Summary, will be prepared by EPA. Once this is completed, the design of the remedy will commence and upon completion of the design, implementation of the remedy will begin.



SITE BACKGROUND

The Lees Lane Landfill Site is located immediately adjacent to the Ohio River in Jefferson County, approximately 4.5 miles southwest of Louisville, Kentucky. The site, consisting of 112 acres, is approximately 5,000 feet in length and 1,5[illegible] feet in width. Most of the landfill site[illegible] level to gently sloping land with one depression, with steep slopes, located on the southern end of the site. Much of the landfill surface is covered with well-



established vegetation ranging from brush to woodlands.

The site is bordered on the east and south by a flood protection levee. To the northeast is Borden Inc., a chemical manufacturer, and to the south is the Louisville Gas and Electric Cane Run Plant (a coal-burning generating station). Other industrial development occupies some of the Kentucky side of the Ohio River from Louisville south to the Lees Lane Landfill area. Across the levee to the east of the site is Riverside Gardens, a residential development of about 330 homes and 1,100 people. Beyond these areas, land is vacant or devoted primarily to woodlands and agricultural use.

Vehicular access to the site is from Lees Lane or Putman Avenue and is presently unrestricted. The site is occasionally used for recreational purposes such as target practice, hunting, or related activities. Scattered drums and household wastes have been observed on the landfill surface suggesting that dumping may still be occurring.

Site History

Domestic, commercial, and industrial wastes were disposed of in the landfill from the late 1940's to 1975. Prior to and during its use as a landfill, sand and gravel were quarried at the site by the Hofgesang Company. In 1971, the State issued a permit under its Solid Waste Program for the southern portion of the landfill. In 1974, the Lees Lane Landfill permit expired and, due to repeated compliance violations, was not renewed.

In March 1975, the Jefferson County Department of Public Health was notified of the presence of methane gas in Riverside Gardens. As a result of explosive levels of methane gas, seven families along Putman Street were evacuated by the Jefferson County Housing Authority. The homes were puchased and the families were relocated. In April 1975, the Kentucky Natural Resources and Environmental Protection Cabinet (NREPC) filed a lawsuit that resulted in landfill closure.

Between 1975 and 1979, 44 gas observation wells were installed in and around the landfill and in Riverside Gardens to monitor the concentration, pressure and lateral extent of methane migration. Samples collected from these wells indicated that the source of the methane and associated toxic gases was the decomposition of landfill wastes. In October 1980, a gas collection system was installed between the fill and Riverside Gardens.

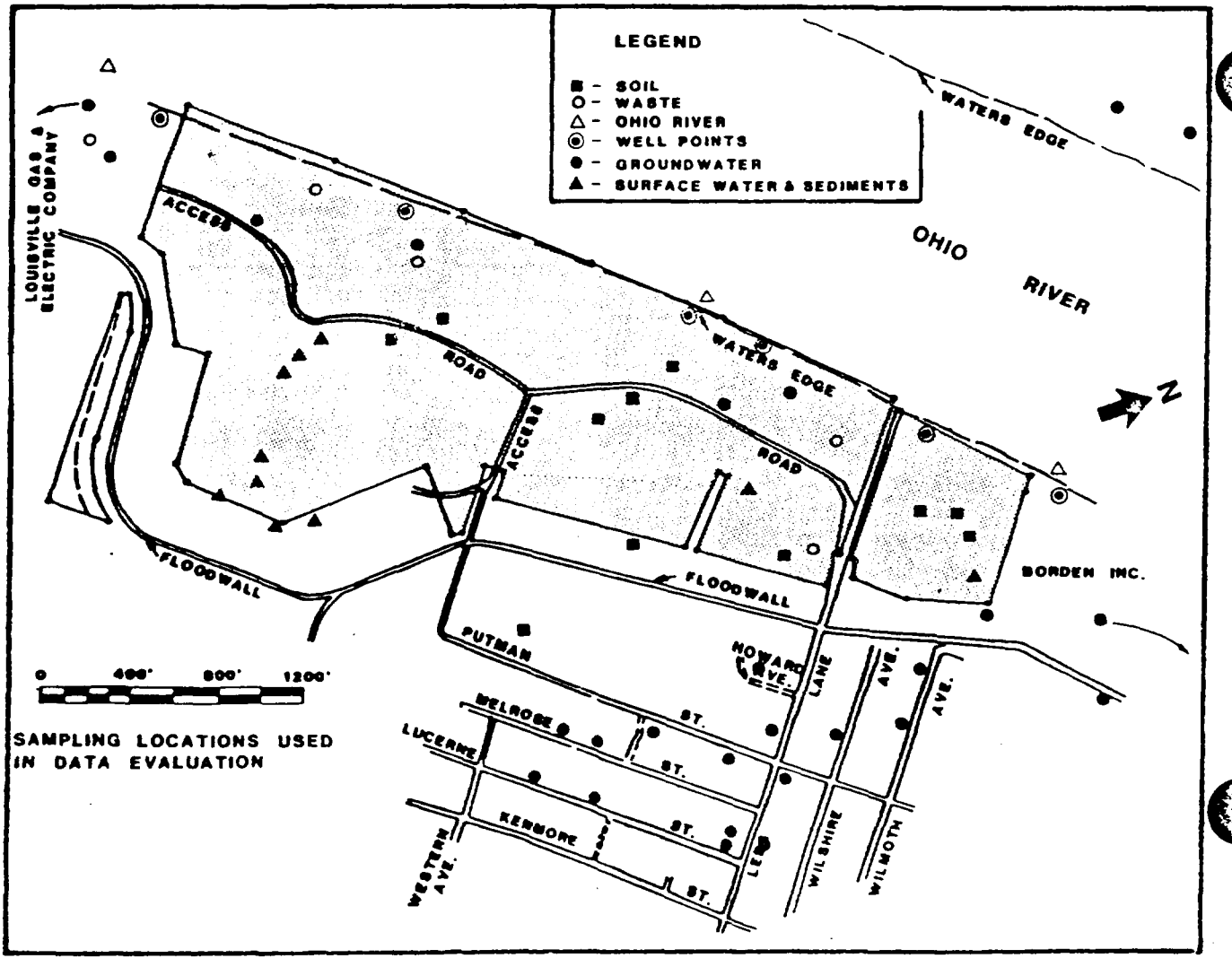
In November 1978, samples were collected from residential wells in Riverside Gardens to determine the potential effects of the landfill on groundwater quality. The study reported that there was no indication of the migration of contaminated groundwater from the landfill to the residential wells.

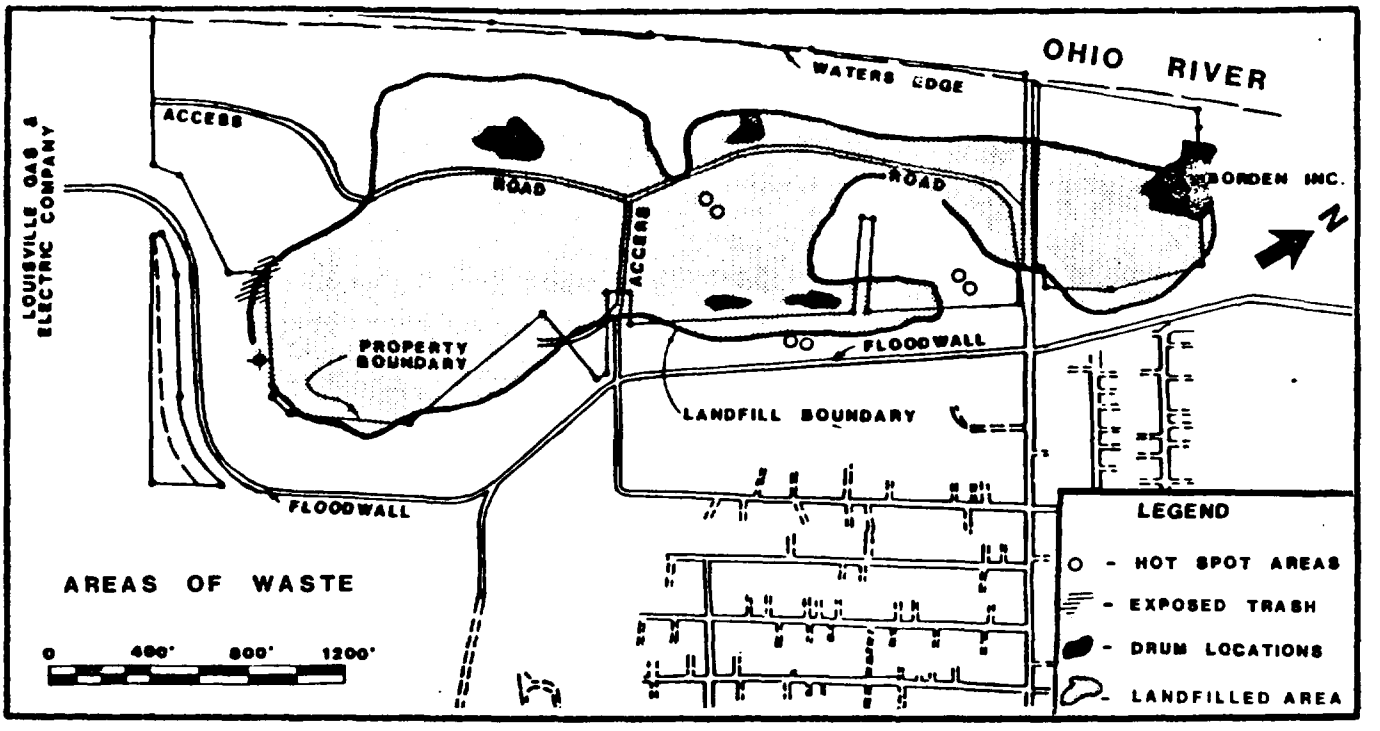
In February 1980, the Kentucky Department of Hazardous Materials and Waste Management (HMWM) discovered approximately 400 drums about 100 feet from the Ohio River bank on a 10-foot vertical rise above the river. In September and October of 1981, the drums were removed by the owners under Court Order.

In early 1981, the Kentucky NREPC installed eleven shallow groundwater monitor wells at the site; and in April, samples were collected from five of these wells.

An EPA evaluation of the landfill in December 1982 resulted in the placement of the site on the National Priorities List.

The studies completed to date for EPA include the Remedial Approach Plan (December, 1981), Remedial Action Master Plan (May, 1983), Remedial Investigation Report (September, 1985), and the Feasibility Study (September, 1985).





Major Findings of the Remedial Investigation

The Remedial Investigation evaluated the potential for contamination, both on and off the site. This was accomplished by collecting and analyzing over 65 samples of groundwater, surface water, soil and sediments in the area and reviewing the results of all previous studies conducted at the site.

At the site, the ponds, unvegetated zones, or other suspicious looking areas were examined closely. Soil, sediment and surface water samples were collected, analyzed and found to have very little contamination. However, there were a few areas on the surface of the landfill where wastes have been placed since the landfill closed.

Groundwater beneath the landfill was found to contain some contaminants which exceeded EPA's Interim Primary Drinking Water Regulations. Offsite evaluation of groundwater through either existing wells or test wells showed no contaminants eminating from the landfill site.

Subsurface gas samples collected at the landfill indicate that decomposition of landfill wastes is still producing methane gas which could move to Riverside Gardens. Although the existing gas collection system installed in 1980 is in need of repair, it is currently preventing gas migration toward Riverside Gardens. The County also has an ongoing monthly sampling program which confirms that there are no current problems.

Public Health Assessment

The public health assessment concluded that there was no evidence of a public health or environmental threat due to the site at this time. Immediate cleanup of the groundwater was not indicated to be necessary by the public health assessment. However, the need for long-term monitoring of groundwater and air was identified to establish baseline conditions and to serve as an early detection system should site conditions change. The public health assessment recognized that the existing gas collection system is currently preventing gas migration, but the system may need to be repaired or replaced. It recommended that new gas monitor wells be installed and sampled between the collection system and Riverside Gardens. The public health assessment also noted that, due to easy public access to the landfill, the surface wastes should be removed and/or covered with clean soils.

ALTERNATIVE SOLUTIONS

No. 1: No Action and Monitoring
No corrective measures would be undertaken to reduce or decrease current contamination present at the landfill. However a long-term monitoring program would be established for 30 years to collect samples on a regular basis of two to four times per year. With this information, EPA will be able to determine future environmental impacts of the landfill and exposure of the public to contaminants.

No. 2: Gas Collection and Monitoring
This alternative would involve the construction of a gas collection and venting system. This system would prevent the gases generated by the landfill from migrating into Riverside Gardens. Parts of the existing collection system constructed in 1980 would be incorporated into this system, where possible. The monitoring system described above would also be established to assess changes in the environmental conditions at the landfill.

No. 3: Gas Collection and Monitoring Plus Bank Protection Controls
This alternative incorporates the "Gas Collection and Monitoring" alternative, and adds cleanup of the surface wastes and bank protection controls. As a part of this alternative, the areas of contaminated soil would be covered with uncontaminated soils and the drums would be removed. In addition, due to the proximity of the landfill to the Ohio River the bank of the river would be stabilized with riprap or other materials to reduce erosion. It is believed that all 5,000 feet of the bank along the landfill would need to be protected if the riprap were to be effective.

No. 4: Gas Collection, Monitoring and Bank Protection Controls Plus Capping
This alternative incorporates the "Gas Collection and Monitoring Plus Bank Protection Controls" alternative and adds a cover of clay, or cap, over the top of the landfill. Prior to capping, the landfill would be cleared of brush and wooded areas and the surface wastes (drums) would be removed. The cap is expected to cover all 112 acres of the landfill.

No. 5: Excavation and Incineration at the Landfill
This alternative calls for the excavation of the landfill contents, incineration of these materials at the landfill, and monitoring as described in the first alternative. It is estimated that approximately 2,400,000 cubic yards of material would be excavated and that 1,560,000 cubic yards of that material would be suitable for incineration. The residue from the incineration and the nonburnable wastes will be disposed of at an EPA-approved landfill. As the wastes are incinerated, additional monitoring will insure that contaminants are not being released into the air.

No. 6: Excavation and Removal of All Material
This alternative is basically the same as the previous alternative except that all of the excavated wastes would be trucked to an EPA-approved landfill. Based on the volume of wastes to be removed, it is estimated that 120,000 truck loads would be transported off the site. Clean, uncontaminated soil would be used to fill the excavated areas, and the landfill would be graded and revegetated. Monitoring as described in the first alternative would be conducted throughout the excavation process.

POSSIBLE REMEDIAL MEASURES

The following paragraphs define the various actions and remedial measures being considered at the Lees Lane Landfill Site. These measures, or combination of measures, provided the basis for developing the various alternatives being considered for site cleanup.

- **No Action**
  The term "no action" is used to describe a situation where no health hazard or environmentally damaging condition exists, so therefore no remedial measures are necessary.

- **Monitoring**
  Monitoring can be performed independently or as an addition to cleanup to determine the effectiveness of the selected remedial alternative. Results of routine sampling and analysis are used to determine the amount of contaminant movement, if any, and to continually reassess the risks posed to public health and to the environment.

- **Gas Collection and Venting**
  Gas collection prevents gases from moving through the landfill into other areas. The system consists of underground pipe vents connected to a blower on the surface which discharges the gases into the atmosphere. If necessary, the gases are treated prior to to discharge.

- **Surface Capping**
  Caps are constructed primarily to control the release of gases into the atmosphere and to reduce infiltration of the surface water. The capping process, requires a relatively impermeable barrier overlying the landfill and a suitable cover soil to protect the barrier and to support the growth of vegetation.

- **Bank Protection Controls**
  Erosion and failure of a river bank can be minimized by the use of bank protection controls. These controls usually involve placing stones or a similar material (riprap) along the slope of the river bank much like that seen along highways or along river banks near bridges.

- **Excavation**
  Excavation involves the removal of all contaminated materials and the transportation of these materials to a licensed hazardous waste facility or incineration site. After excavation, the site must be backfilled, regraded, and revegetated.

- **Incineration**
  Incineration is a process where wastes are burned at high temperatures which results in converting hazardous wastes into less harmful materials while significantly reducing the volume of wastes.

SUMMARY OF COST PER ALTERNATIVE *

Alternative No. 1	$340,000	Alternative No. 4	$16,058,000
Alternative No. 2	$561,000	Alternative No. 5	$165,789,000
Alternative No. 3	$2,804,000	Alternative No. 6	$261,561,000

*Based on Present Worth Analysis.

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PUBLIC INPUT

Written comments on Lees Lane Landfill Feasibility Study will be accepted until **November 6, 1985**

Written comments may be mailed to:

Ms. Beverly Houston
Emergency and Remedial Response Branch
U.S. Environmental Protection Agency
345 Courtland Street, NE
Atlanta, Georgia 30365

Location of Repositories

Information concerning the Lees Lane Landfill Site may be found at the following locations:

Jefferson County Commissioners Office
Room 201
County Court House
Louisville, Kentucky 40202
(502) 581-6808

Ms. Pat Moran
Riverside Gardens Community Council
4416 Wilmoth
Louisville, Kentucky 40216
(502) 447-6199

Riverside Baptist Church
4317 Lees Lane
Louisville, Kentucky 40216
(502) 449-1891

Lees Lane Food Mart
4210 Lees Lane
Louisville, Kentucky 40216
(502) 448-2606

MAILING LIST ADDITIONS

Anyone wishing to be placed on the Lees Lane Landfill hazardous waste site mailing list please fill out, detach, and mail this form to:

Mr. Michael Henderson
Office of Public Affairs
U.S. EPA
345 Courtland Street, NE
Atlanta, Georgia 30365

Name

Address

Affiliation

Phone

United States
Environmental Protection
Agency

Region IV
Office of Public Affairs
345 Courtland Street, NE
Atlanta, GA 30365